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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,183	01/28/2004	Hyun-soo Park	1793.1135	9839

21171 7590 02/10/2005

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EXAMINER

LUU, AN T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,183

Applicant(s)

PARK ET AL.

Examiner

An T. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-27 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3 and 13-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 3, it is unclear if the limitation "*an input signal*", line 2, relates to "*an input signal*" recited on line 4 of claim 1.

As to claim 13, the limitation "*a control voltage signal*", recited on lines 2 and 9, has the same problem as noted above.

As to claim 15, it is unclear if the limitation "*a phase different*", line 3, relates to "*a phase different*" recited on line 3 of claim 13.

As to claim 22, it has the same problem as that of claim 13 as noted above.

As to claims 14, 16-20 and 23-24, they are rejected for being dependent on the rejected claims as noted above.

As to claim 21, the recitation of claim is misdescriptive since "*a maximum period*", line 2, is an output of MAXIMUM PERIOD DETECTOR 533. It is not a value for comparing to (See section [0036] and [0037]). The limitation "*receiving a signal of a period T, counting..., and comparing a count value with the maximum period*", lines 3-5, appears to be incorrect since sections [0036] and [0037] of the specification disclose "*a maximum period*" is defined by comparing number of positive (+) and negative (-) to "*a predetermined range*". Lastly, the

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limitation "*if the difference between the count...and the maximum period*", lines 6-8, appears to be misdescriptive since "*the maximum period*" is a result derived from comparing number of positive (+) and negative (-) to "*a predetermined range*".

As to claim 25, it has the same problem as that of claim 21 as noted above.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 13-16 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by the Lin et al reference (U.S. Patent 5,446,416).

Lin et al discloses in figure 1 an apparatus comprising a voltage controlled oscillator 45 which generates a clock signal 50 of a frequency that varies with a control voltage signal (i.e., input of 45), a phase compensator (20 and 30) which receives an input signal 15 and the clock signal, detects a phase difference between the input signal and the clock signal, and generates a first control voltage (i.e., output of 20) corresponding to the phase difference; a frequency compensator 25 which receives the input signal and the clock signal, detects a frequency difference between the input signal and the clock signal, and generates a second control voltage (i.e., output of 25) corresponding to the frequency difference; and an adder 40 which sums the first control voltage and the second control voltage and generates the control voltage signal as required by claim 1.

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As to claim 2, figure 7 and its associated description (col. 10+) disclose the input for the apparatus of claim 1 being a radio frequency signal read from data recorded onto an optical disk.

As to claim 3, figure 1 shows the phase compensator comprising a phase detector 20 which receives the input signal and the clock signal and detects a phase difference between the input signal and the clock signal, and a loop filter 30 which filters an output of the phase detector and outputs a voltage corresponding to the phase difference.

As to claim 4, loop filter 35 (Fig. 1) is seen as a booster for boosting a high-frequency component of the input signal.

As to claim 5, it is inherent that there is an A/D converter (i.e., binarizer) in the apparatus of figure 7 since figure 7 shows a digital signal processing circuit capable of receiving an analog input signal (i.e., receiving a high frequency electromagnetic waves from a transmitter antenna.)

As to claims 13, 15 and 16, they are rejected for reciting method/step derived from the apparatus of claims 1, 3 and 4 that are rejected as noted above.

As to claim 14, the scope of claim is similar to that of claim 2. Therefore, it is rejected for the same reason set forth above.

As to claim 22, the scope of claim is similar to that of claim 13. therefore, it is rejected for the same reason set forth above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over the Lin et al reference (U.S. Patent 5,446,416) in view of the Tsutsui et al reference (U.S. Patent 5,751,675).

Lin discloses all the claimed inventions of claims 23 and 24 (see the rejections of claim noted above) except for teaching the operable computer program (i.e., retrievable for execution) being stored in a storage media, or the likes, and distributed over the system via a network as required by the claims.

Tsutsui et al discloses in figure 1 a locked loop circuit 5 receiving a RF signal carrying computer program from a storage disk 2 to operate an PLL circuit 5 as required by the claims.

It would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Tsutsui into that of Lin's since both teachings involve synchronizing signals.

A skilled artisan in the art would be motivated to combine the above prior arts to expand the operation of Lin et al teaching from processing real-time data to processing data collected previously (i.e., data stored in storage means).

Allowable Subject Matter

7. Claims 10-12 are allowed.

8. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. Claims 21 and 25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. Claims 17-20 and 26-27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose an apparatus and method/step thereof comprising elements/steps being configured as recited in claims 6, 10, 17, 21 and 25. Specifically, none of the prior art teaches or fairly suggests, among other things, the limitation “*a first maximum period detector which counts the number of clock signals within each section where the input signal is positive (+) and outputs a first maximum period for a predetermined amount of time; a second maximum period detector which counts the number of clock signals within each section where the input signal is negative (-) and outputs a second maximum period for the predetermined amount of time; a maximum period detector which receives the first maximum period and the second maximum period and determines whether the input signal has an error; and a frequency error generator which compares the output signal of the maximum period detector with a predetermined value and generates a control voltage corresponding to the difference between the output signal and the predetermined value*” as recited in claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

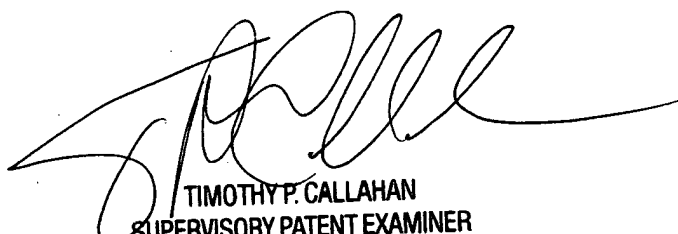
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 571-272-1746. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

An T. Luu
1-25-05 *ALU*


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